

Remarks

The Drawing has been amended by adding the drainage port 42.

The Specification has been amended to have reference to the drainage port in Fig.

4.

The claims have been amended to better distinguish the present invention from the cited art and to obviate the rejection under 35 USC 112.

The present invention relates to a submersible centrifugal pump which has a rapid discharge of water because of the impeller is sloped and there are opposing inlet means acting on both sides of the impeller to create equal pressure.

The pump is self-priming and goes either forward or in reverse. The pump has no gears, seals or bearings and has dry run capabilities. The pump action comes from both sides of the impeller.

The claims have been amended to set forth the distinguishing features.

Claim 17 now sets forth the feature disclosed on page 7, lines 19-20 of the specification which relates to the balancing of the impeller to prevent wear due to wobble.

The Rejection Under 35 US 102

Reconsideration is respectfully requested of the rejection of claims 1-3, 10 and 11 under 35 USC 102(b) as being anticipated by Ivens.

Ivens discloses a pump in which water comes through a single inlet 15 and is divided by a wedge 7 so that water on both sides of the disk 6. This is important for Ivens since the blades 6 are curved and can only turn in one direction. It is stated on page 2, left hand column at lines 23-39 that this is an essential feature. Moreover, the disc 6 does not have a slope.

The present invention distinguishes by opposing inlets on opposite sides and a sloped impeller that is self priming and pumps forward and in reverse. There is no need for venting valves as required by Ivens since there is no partial vacuum and no air to be drawn off.

Consequently, Ivens fails to teach the critical features of the present invention and a slope of 30 to 45 degrees on both sides of the disk 6.

Reconsideration is respectfully requested of the rejection of claims 1-3, 9, 11, 13, 14 and 16 as being anticipated by Salzer.

Salzer discloses a centrifugal pump having suction inlets 20, 21, which communicate with inlets 22, 23 on opposite ends and not both sides of the shaft 1. There is no mention of equal pressure on both sides of the impeller. The object is to have interchangeable impellers and distributors. The impeller 9 does not have a slope of 30-45 degrees. The vanes 9¹ are curved so that the impeller does not go forward and in reverse.

The construction of the impeller and vanes is to scoop the fluid out through discharge outlet 19. The pump is not self-priming.

Consequently, Salzer fails to teach the critical features of the present invention. The Examiner has merely taken isolated teachings and tried to fit them to the present invention.

Reconsideration is respectfully requested of the rejection of claims 1-3, 11 and 13-15 under 35 USC 102(b) as being anticipated by Godichon.

Godichon relates to air ventilators which are used in industries such as the nuclear, cement, etc.(col. 1, lines 30-52) with an object to controlling air flow (col. 3, lines 7-19). The term "fluid" used by Godichon refers to gas or gaseous mixture (col. 4, lines 6-11). Deflectors are used to reduce the flow fluid which is contrary to the present invention that provides a rapid discharge. The centrifugal wheel has angular blades and not a slope. The apparatus is not submersible in water.

In contrast, the present invention is submersible in water, self-priming and has a sloped impeller. As noted in Fig. 1, the pump is intended to be mounted in a boat and in connection with a boat propeller. The present impeller can move forward or in reverse. This feature is not possible with a pump taught by Godishon. An essential feature of the present invention is a sloped impeller of 30-45 degrees which carries the water out to the vanes for rapid discharge. If debris enters the pump it can be put into reverse to discharge the debris.

The Examiner is therefore requested to withdraw the rejection under 35 USC 102. In order to constitute an anticipation under Section 102, it is an absolute requirement that

the prior patent or publication bear within its four corners directions for the practice of the present invention (see *Kalman v. Kimberly-Clark Corp.*, 218 USPQ 781, 789 (Fed. Cir. 1983)). Each of Salzer, Ivens, and Godichon fail to disclose an immersion pump which is self-priming and has an impeller with a 30-45 degree slope which has equal pressure on both sides because of the opposing inlets.

The Rejection Under 35 USC 103

Reconsideration is respectfully requested of the rejection of claims 1, 4, 8 and 10 under 35 USC 103(a) as being unpatentable over Ericson et al ('987) in view of Ivens.

The Examiner has noted that Ericson et al do not each a sloped impeller. As previously mentioned, Ivens does not disclose an impeller having a slope of 30-45 degrees. It is the specific slope in combination with outwardly extending vanes which contributes to the rapid discharge of water. Moreover, Ivens is incompatible with Ericson since Ivens requires curved vanes while Ericson by necessity requires straight blades to use in a split impeller.

The combination of Ericson and Ivens fails to teach or suggest the impeller with a slope of 30-45 degrees in association with the outwardly extending vanes.

Reconsideration is respectfully requested of the rejection of claim 5 under 35 USC 103(a) as being unpatentable over Ivens over applicant's admitted prior art.

The Examiner errs in considering that the statement made on page 8, lines 2-3

relates to prior art. The statement is made under the “Preferred Embodiments” of invention and discloses an impeller having a 30° slope. The prior art does not disclose a 30° slope. Applicant was obviously discussing a typical pump of the present invention. Similarly the following paragraph which mentions “the larger size remote pumps” also relates to the present invention. Consequently, the Examiner’s rejection in this regard should be withdrawn.

Moreover, there is no way that Ivens could relate to an impeller having a 30 degree slope if the vanes are curved as shown in the drawings. A sloped impeller with curved vanes would result in eddy currents and an unusual effect as the vanes are arranged on a slope. The dynamics of a curved blade with a sloped impeller would be different from a sloped impeller with outwardly extending blades as claimed.

Reconsideration is respectfully requested of the rejection of claims 6, 7, 12, and 17 under 35 USC 103(a) as being unpatentable over Eberhardt in view of Salzer.

The Examiner states that Eberhardt does not teach a housing having a front wall and a rear wall discharge outlet opening in a top portion and opposing inlet means on opposite sides of the housing which creates equal pressure from both sides on an impeller. Neither does Salzer. There is no mention of equal pressure since inlets are at opposite ends and not on opposite. Moreover, without a slope of at least 30 degrees the desired effect achieved by applicant will not occur.

Claims 6, 7 and 12 depend upon claim 1 for their patentability.

Claim 17 is by itself patentable because of the unique provision of the impeller

having a slope and a flat portion which is formed to balance the impeller as disclosed on page 7, lines 19-20.

It is submitted that the cited references alone or in combination fail to teach or suggest the combination when would result in an immersible pump which is balanced by equal pressure on both sides of the impeller whereby there is a rapid discharge of fluid as presently claimed. It is the unique combination which includes an impeller having a 30-45 degree slope on both sides in combination with outwardly extending vanes that permits rotation forward and reverse that is not taught by the cited art.

In the case at hand, the art of record does not provide sufficient teaching which would lead a skilled artisan to arrive at the whole instant invention. The Examiner has failed to demonstrate the whole invention of the appellants was disclosed either alone or in any combination of teachings of record. It is this lack of teaching which cannot support his allegations, and thus provides patentability to the present invention.

It is applicant's contention that the Examiner is guided to the rejection under obviousness only after knowing applicant's invention and working backward from this knowledge by trying to fit the teachings of the references to the teachings of the appellant. None of the references teach the required 30-45 degree slope.

The Examiner's attention is respectfully directed to the opinion of the Court in In re Nomiva, 509 F2d 566, 184 USPQ 6079 (CCPA 1975), which stated:

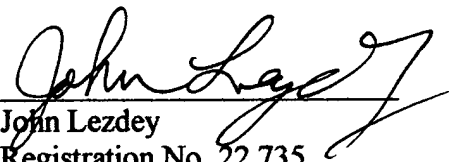
"There must, however, be a reason apparent at the time the invention was made to the person of ordinary skill in the art for applying the teaching at hand, or the use of the teaching as evidence of obviousness will entail prohibited hindsight."

It is well established in the law that "obvious to try" is not a standard. See for example, In re Goodwin, 198 USPQ 1 (CCPA 1978), at 3.

35 USC 103 provides that an invention is not patentable if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to person having ordinary skill in the pertinent art. In the present case the differences are not obvious.

Reconsideration and favorable action are earnestly solicited.

Respectfully submitted,



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